

SUPPLEMENTAL MATERIAL

Data S1.

Complete search algorithm used in MEDLINE search

((endovascular[All Fields] AND ("therapy"[Subheading] OR "therapy"[All Fields] OR "therapeutics"[MeSH Terms] OR "therapeutics"[All Fields])) OR (endovascular[All Fields] AND ("therapy"[Subheading] OR "therapy"[All Fields] OR "treatment"[All Fields] OR "therapeutics"[MeSH Terms] OR "therapeutics"[All Fields])) OR (endovascular[All Fields] AND ("reperfusion"[MeSH Terms] OR "reperfusion"[All Fields] OR ("reperfusion"[All Fields] AND "therapy"[All Fields]) OR "reperfusion therapy"[All Fields])) OR (mechanical[All Fields] AND ("thrombectomy"[MeSH Terms] OR "thrombectomy"[All Fields])) OR ("thrombectomy"[MeSH Terms] OR "thrombectomy"[All Fields]) OR (("stents"[MeSH Terms] OR "stents"[All Fields] OR "stent"[All Fields]) AND retriever[All Fields]) OR thromboaspiration[All Fields]) AND ((acute[All Fields] AND ("ischemia"[MeSH Terms] OR "ischemia"[All Fields] OR "ischemic"[All Fields]) AND ("stroke"[MeSH Terms] OR "stroke"[All Fields])) OR ("brain ischemia"[MeSH Terms] OR ("brain"[All Fields] AND "ischemia"[All Fields]) OR "brain ischemia"[All Fields] OR ("cerebrovascular"[All Fields] AND "ischemia"[All Fields]) OR "cerebrovascular ischemia"[All Fields]) OR ("stroke"[MeSH Terms] OR "stroke"[All Fields]) OR (large[All Fields] AND ("blood vessels"[MeSH Terms] OR ("blood"[All Fields] AND "vessels"[All Fields]) OR "blood vessels"[All Fields] OR "vessel"[All Fields]) AND ("dental occlusion"[MeSH Terms] OR ("dental"[All Fields] AND "occlusion"[All Fields]) OR "dental occlusion"[All Fields] OR "occlusion"[All Fields]))) AND ((Clinical Trial[ptyp] OR Clinical Trial, Phase I[ptyp] OR Clinical Trial, Phase II[ptyp] OR Clinical Trial, Phase III[ptyp] OR Clinical Trial, Phase IV[ptyp] OR Randomized Controlled Trial[ptyp]) AND "humans"[MeSH Terms])

Table S1. Excluded studies from the meta-analysis with reason(s) for exclusion.

Study name	Reason for exclusion
IMS III [1]	first generation thrombectomy devices used
MR RESCUE [2]	first generation thrombectomy devices used
SYNTHESIS [3]	first generation thrombectomy devices used / possibility of enrolled patients without LVO
EASI [4]	possibility of enrolled patients without LVO (baseline vascular imaging was available in 80% of patients)/ neither masking nor blinding were required

LVO: large vessel occlusion

Table S2. Meta-regression analyses on the association of all-cause mortality at 3 months with patient and procedure characteristics.

Variable	Coefficient (95%CI)	p-value
Age	-0.05 (-0.15, 0.04)	0.254
Female sex	0.01 (-0.03, 0.04)	0.702
Systolic blood pressure on admission	-0.02 (-0.12, 0.08)	0.601
Admission glucose	-0.39 (-0.40, 1.17)	0.277
Onset to groin puncture time	0.01 (-0.06, 0.06)	0.985
IVT pretreatment	0.01 (-0.01, 0.02)	0.804
General anesthesia	-0.01 (-0.02, 0.01)	0.735
Successful reperfusion	-0.01 (-0.03, 0.02)	0.663

IVT: intravenous thrombolysis, 95%CI: 95% confidence interval

Table S3. Overview of meta-analyses on the association of mechanical thrombectomy with 3-month mortality according to sample size.

Study	N of studies	N of patients	Mortality (MT)	Mortality (BMT)	RR (95%CI)
Goyal et al, 2016 [5]	5	1309	15.3% (97/633)	18.9% (122/646)	0.82 (0.63–1.07)
Roman et al, 2018 [6]	7	1754	14.7% (128/870)	17.3% (153/884)	0.85 (0.69-1.05)
Katsanos et al	11	2460	15.8% (194/1228)	19.3% (238/ 1232)	0.83 (0.69-0.99)

MT: mechanical thrombectomy, BMT: best medical treatment, RR: risk ratio

Figure S1. Flow chart presenting the selection of eligible studies.

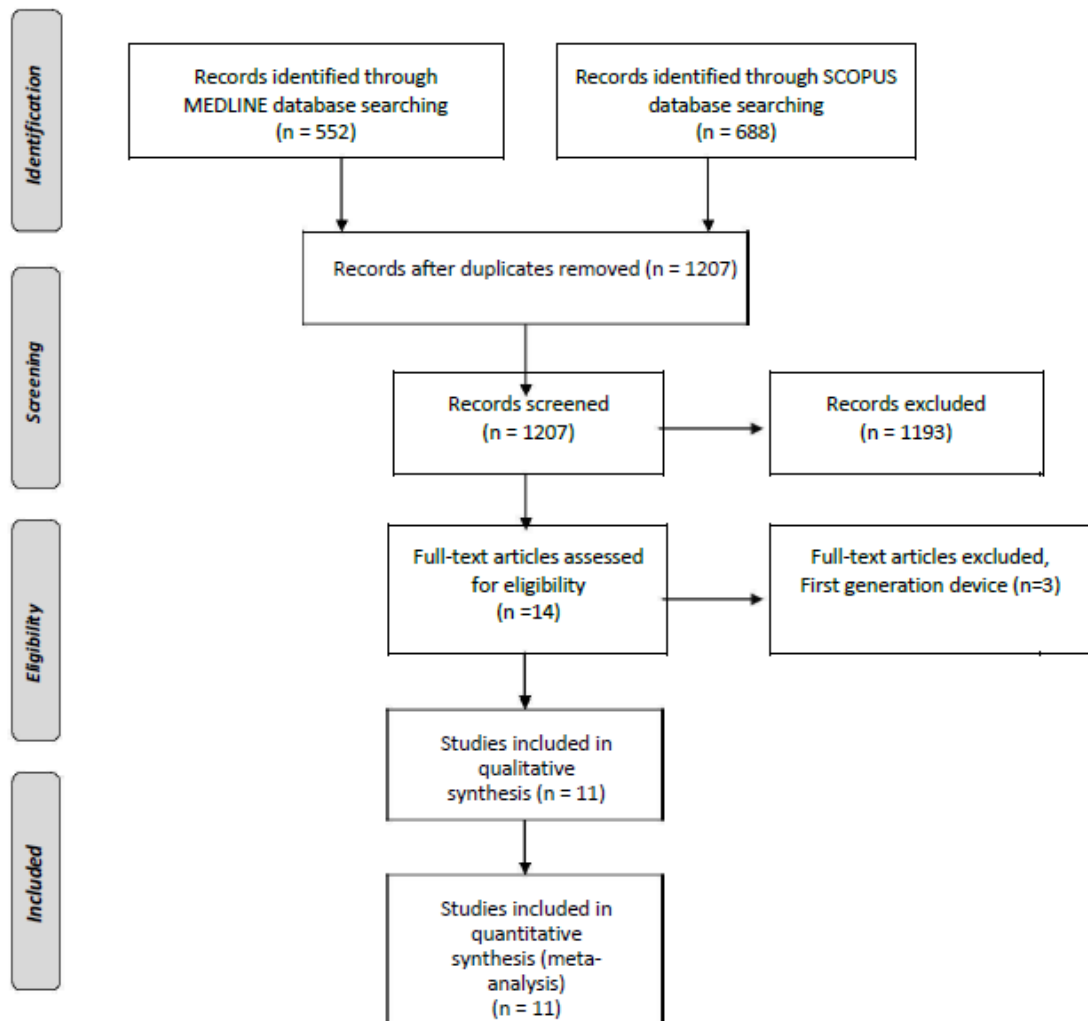


Figure S2. Risk of bias summary that reviews authors' judgments about each risk of bias item for each included study.

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
DAWN	+	+	-	+	+	+	+
DEFUSE 3	+	+	-	+	+	+	+
ESCAPE	+	+	-	+	+	+	+
EXTEND-IA	+	+	-	+	+	+	+
MR CLEAN	+	+	-	+	+	+	+
PISTE	+	+	-	+	+	+	+
RESILIENT	?	?	-	+	?	+	?
REVASCAT	+	+	-	+	+	+	+
SWIFT PRIME	+	+	-	+	+	+	+
THERAPY	+	+	-	+	+	+	+
THRACE	+	+	-	-	+	+	+

Figure S3. Risk of bias graph that reviews authors' judgments about each risk of bias item presented as percentages across all included studies.

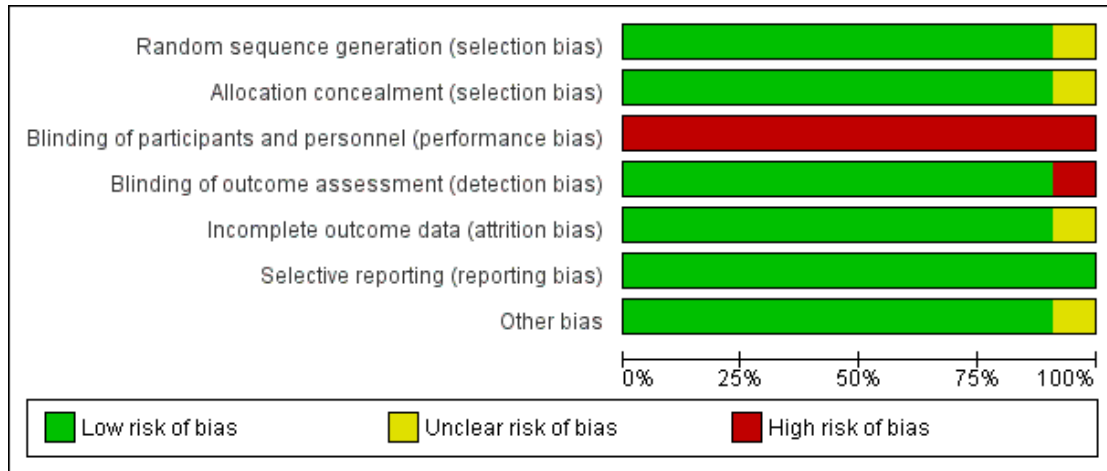


Figure S4. Funnel plot of included studies.

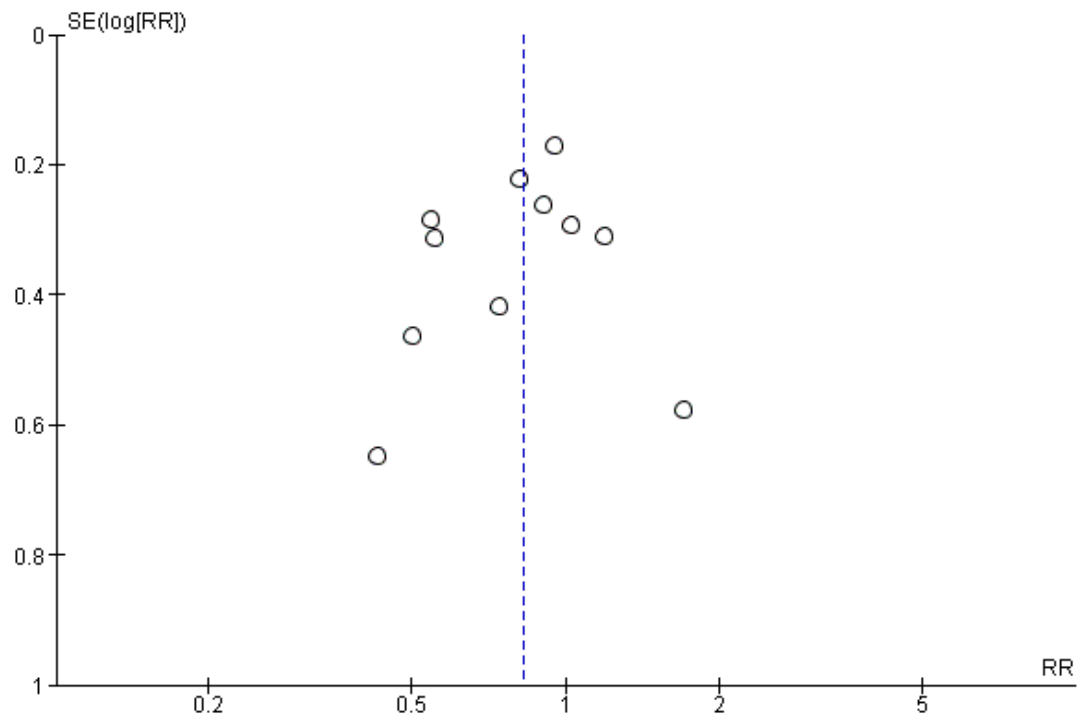


Figure S5. Mortality rate in patients receiving mechanical thrombectomy plus best medical treatment, calculated using double arcsine Freeman-Tukey transformation (FTT).

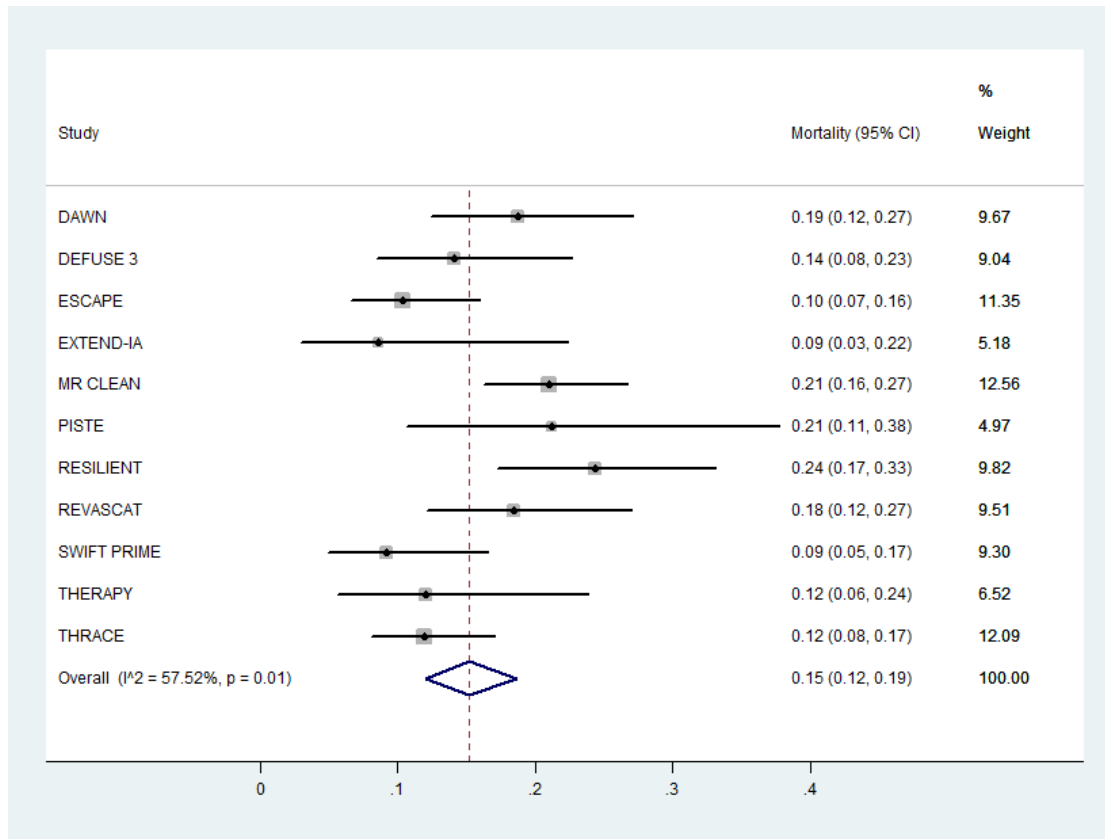
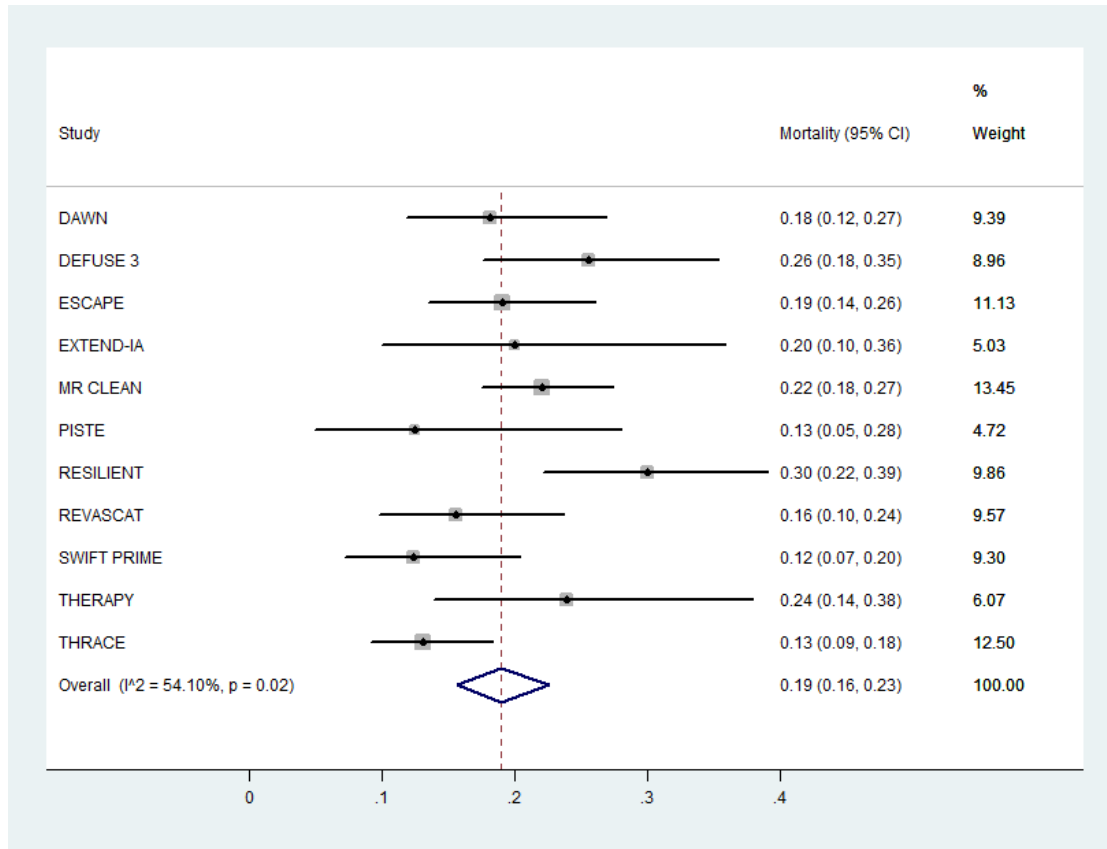


Figure S6. Mortality rate in patients receiving best medical treatment alone, calculated using double arcsine Freeman-Tukey transformation (FTT).



Supplemental References:

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